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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/597,485

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Enrico Brambilla

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116 7590 11/03/2011  
PEARNE & GORDON LLP  
1801 EAST 9TH STREET  
SUITE 1200  
CLEVELAND, OH 44114-3108

EXAMINER

CORMIER, DAVID G

ART UNIT

PAPER NUMBER

1711

MAIL DATE

DELIVERY MODE

11/03/2011

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/597,485	<b>Applicant(s)</b> BRAMBILLA ET AL.	
	<b>Examiner</b> DAVID CORMIER	<b>Art Unit</b> 1711	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2011.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 5) ☒ Claim(s) 18.20 and 22-34 is/are pending in the application.
- 5a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 6) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 7) ☒ Claim(s) 18.20 and 22-34 is/are rejected.
- 8) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 9) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____.                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____.   | 6) <input type="checkbox"/> Other: ____.                          |

## **DETAILED ACTION**

### ***Response to Arguments/Amendments***

1. This Office action is responsive to the amendment filed on September 6, 2011. Claims 18, 20, and 22-34 are pending. Claim 18 has been amended. Claims 19, and 21 are cancelled, and Claims 33 and 34 are new. Claims 1-17 are withdrawn from further consideration.
2. Claims 18, 20, 22, 23, and 26-32 were rejected under 35 U.S.C. 103(a) as being unpatentable over Young, Jr. (US 5,450,868) in view of Kim (US 2005/0150528). Claim 24 was rejected under 35 U.S.C. 103(a) as being unpatentable over Young, Jr., in view of Kim, and in further view of Imai et al. (JP 05-111451). Claim 18 has been amended to recite, inter alia, the antibiotic agent is consumable, and the replaceable component is periodically replaced as the consumable antibiotic agent is consumed over time via exposure to the rinsing liquid and/or stagnant water. Applicant's amendments and arguments have been carefully considered but are unpersuasive.
3. First Applicant argues that Young does not disclose the antibiotic agent or replaceable component with an antibiotic agent, and Kim does not teach the replaceable component; however, the Examiner has not relied upon Young and Kim for those features. Instead Young is relied upon for teaching dishwasher elements which would be capable of being replaced (Office action of April 6, 2011 at paragraphs 9, 12), and Kim is relied upon for teaching that various components in a dishwasher, which experience exposure to food remnants, may comprise an antibiotic agent (Office action of April 6, 2011 at paragraphs 11 and 12).

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4. Applicant further argues that Kim provides a clear teaching away from utilizing any consumable antibiotic agent provided in a replaceable component. Specifically, Applicant argues that Kim teaches an antibiotic that is permanently formed into structural elements of a dishwashing machine, such as the inner panel 12, and it would not be logical to periodically replace the inner structural walls. First the Examiner notes that Kim also teaches antibiotics may be integrated with the plastic resin or applied as a functional coating to elements which experience exposure to food remnants such as the injection arm 9, sump 10, and filter 5. All of these elements are capable of being replaced periodically if desired for any reason. Periodically replacing any of these elements is intended use of the apparatus. The claimed intended use must result in a structural difference between the claimed apparatus and the prior art in order to patentably distinguish the claimed invention from the prior art. Second, Applicant claims the antibiotic is consumable ("used up," specification, page 5, lines 12-15), and the specification gives many examples of what the antibiotic could be, such as "part of...a resin composition," or a "surface coating" (specification, page 4, lines 9-10, 19-21). Kim discloses structure which broadly and reasonably reads on the claimed/disclosed structures, such as a resin with silver particles or a functional coating (paragraphs 35-38). As Kim discloses the same structure, its antibiotic is broadly and reasonably interpreted to be consumable as well.

5. Claims 18, 20, 22, 23, 25-29, 31, and 32 were rejected under 35 U.S.C. 103(a) as being unpatentable over Jung et al. (US 2004/0007253) in view of Kim (US 2005/0150528).

Applicant makes similar arguments as previously made, such as Kim teaching away. The Examiner relies upon the above discussion in response.

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6. In response to the Applicant's amendments, new/modified ground(s) of rejection are made below.

***Claim Rejections - 35 USC § 103***

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

**8. Claims 18, 20, 22, 23, and 26-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Young, Jr. (US 5,450,868) in view of Kim (US 2005/0150528).**

9. Regarding Claims 18, 33, and 34, Young, Jr. discloses a liquid-bearing domestic appliance comprising: a dishwasher with a rinsing tub (34), the appliance comprising a sieve system (Figures 4 and 7, "pump" 32 including "upper assembly" 48 and "lower assembly" 50, particularly note "fine mesh screen panels" 66 and "grate" 154), the appliance further comprising a replaceable component ("body member" 150) with an enlarged surface area which can be fixed replaceably (Figure 7; col. 9, lines 31-53; would be capable of being replaced) inside the sump, outlet, and/or outlet tube of the liquid-bearing appliance (inside of "lower pump housing" 56 reads on a sump, outlet, or outlet tube).

10. Young, Jr. does not expressly disclose the dishwasher is provided with at least one consumable antibiotic agent at or adjacent to at least one surface of the sieve system, wherein the consumable antibiotic agent is provided inside an area of the liquid-bearing domestic appliance which contains stagnant water after drainage, including a sump, an outlet, and/or an outlet tube, the replaceable component comprises at least one antibiotic agent inside or on its enlarged surface area.

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11. Kim discloses a dish washing machine comprising a cabinet (1), an inner panel (12) for forming an inner space of the dish washing machine, an injection arm (9) for injecting washing water, a sump (10) formed in a lower surface of the inner panel (12) to collect water used for washing, and a filter (5) for filtering food remnants separated from the dishes. The inner panel (12) is made of plastic resin with silver particles therein (paragraph 35), and a functional coating made of sterilizing/antibacterial/deodorizing material such as titanium oxide and/or silver and/or copper may be further formed on the surface of the inner panel (paragraph 36). Kim further discloses that other elements of the machine, which experience exposure to food remnants, such as the injection arm (9), sump (10), and filter (5) can be made of the nano-poly (resin with silver), and may also be coated with the sterilizing functional coating (paragraphs 37 and 38). The sterilizing, antibacterial and deodorizing functions may be applied to any kind of filter mounted in the water circulating path (paragraph 38).

12. Because it is known in the art that dish washing parts having exposure to food particles may be formed of a resin with embedded silver particles and may also have an antibacterial functional coating, as taught by Kim, and it is known to have a dishwasher sieve system with replaceable components (which would be exposed to food particles), as taught by Young, and the results of the modification would be predictable, namely, providing a sterilizing, antibacterial, deodorizing effect, it would have been obvious to one of ordinary skill in the art at the time of the invention to form the sieve system and replaceable component of an antibacterial material and to provide an antibacterial functional coated thereon. As Kim discloses the same structure, its antibiotic is broadly and reasonably interpreted to be consumable. The resulting dishwasher provided with at least one consumable antibiotic agent at or adjacent to at least one surface of the

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sieve system, wherein the antibiotic agent is provided inside an area of the liquid-bearing domestic appliance with contains stagnant water after drainage, including a sump, an outlet, and/or an outlet tube, the replaceable component comprises at least one antibiotic agent inside or layered on its enlarged surface would yield the claimed invention. The language directed to exposure to rinsing liquid and periodically replacing the replaceable component is intended use of the device. The dishwasher of Young in view of Kim would be capable of having the replaceable component replaced periodically as the antibacterial agent is consumed or reduced to an amount insufficient to inhibit bacterial growth. The claimed intended use must result in a structural difference between the claimed apparatus and the prior art in order to patentably distinguish the claimed invention from the prior art.

13. Claims 20, 22, 23, and 26-32 are considered to be taught by Young, Jr. in view of Kim as applied above.

14. Regarding Claims 20, 22, and 23, Kim discloses a nano-poly (resin having silver or copper) with a functional coating thereon (paragraph 35, 36, 38, 45, 66). The plasma coating layer acts as a sterilizing/antibacterial/deodorizing functional layer, and the nano-poly is sterilizing/antibacterial/deodorizing to bacteria and molds (paragraphs 54, 66, 73). The functional coating layer may have TiO<sub>2</sub> and/or silver and/or copper (paragraph 36), and the nano-poly may have silver and copper (paragraph 66).

15. Regarding Claims 26-32, Young discloses the replaceable component (150) is fixed replaceably by at least one fixation means (168) that is releasably inserted into a corresponding fixation opening of the sieve system (210), and comprises at least one arm carrying the fixation means, the arm carries the fixation means at an end of the arm, the fixation means is spaced apart

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from and end of the arm, there are a plurality of arms each carrying a fixation means (162), the replaceable component is spaced apart from the rinsing tub (Figures 1 and 7), has a disk shape (Figure 7) and is adapted to be accommodated between a bottom of the filter and a bottom of the sump such that washing liquid can pass above and below the replaceable component (Figures 4 and 7).

16. **Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Young, Jr. (US 5,450,868), in view of Kim (US 2005/0150528), and in further view of Imai et al. (JP 05-111451; cited by Applicant).**

17. Young, Jr. in view of Kim is relied upon as above, but does not expressly disclose that the antibiotic agent comprises a ceramic matrix, a natural zeolite matrix and/or synthetic zeolite matrix, bearing the at least one bacteriostatic and/or at least one bacteriocidal and/or at least one fungicidal and/or at least one anti-algal substance, wherein the antibiotic agent comprises a ceramic matrix comprising silver and/or silver ions.

18. Imai discloses a tableware washing machine (machine translation, abstract) in which parts of the machine are made from a resin containing antibacterial silver, copper, or zinc ions adsorbed to a calcium carbonate, calcium phosphate, or ceramic support material (abstract; also see the machine translation at page 1, lines 1-4 and 29-34; page 2, lines 1-18; page 5, lines 11-30). This resin material prevents the propagation of microorganisms such as bacteria, mold, and algae (abstract).

19. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Young in view of Kim, as taught by Imai, and to substitute the antibacterial resin and/or functional coating with ceramic support material comprising silver, yielding the



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predictable results of preventing the propagation of microorganisms such as bacteria, mold, and algae in the dishwasher.

20. **Claims 18, 20, 22, 23, 25-29, and 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jung et al. (US 2004/0007253) in view of Kim (US 2005/0150528).**

21. Regarding Claim 18, 33, and 34, Jung discloses a liquid-bearing domestic appliance comprising: a dishwasher with a rinsing tub (20), the appliance comprising a sieve system and/or a filter with an enlarged surface area (80; also note that the entire sump region 40 including filter 80 may be construed as a sieve system), the appliance further comprising a replaceable component (70) which can be fixed replaceably (paragraph 43) inside the sump, outlet, and/or outlet tube of the liquid-bearing appliance (40).

22. Jung does not expressly disclose the dishwasher is provided with at least one consumable antibiotic agent at or adjacent to at least one surface of the sieve system, wherein the consumable antibiotic agent is provided inside an area of the liquid-bearing domestic appliance which contains stagnant water after drainage, including a sump, an outlet, and/or an outlet tube, the replaceable component comprises at least one antibiotic agent inside or on its surface.

23. Kim discloses a dish washing machine comprising a cabinet (1), an inner panel (12) for forming an inner space of the dish washing machine, an injection arm (9) for injecting washing water, a sump (10) formed in a lower surface of the inner panel (12) to collect water used for washing, and a filter (5) for filtering food remnants separated from the dishes. The inner panel (12) is made of plastic resin with silver particles therein (paragraph 35), and a functional coating made of sterilizing/antibacterial/deodorizing material such as titanium oxide and/or silver and/or copper may be further formed on the surface of the inner panel (paragraph 36). Kim further

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discloses that other elements of the machine, which experience exposure to food remnants, such as the injection arm (9), sump (10), and filter (5) can be made of the nano-poly (resin with silver), and may also be coated with the sterilizing functional coating (paragraphs 37 and 38). The sterilizing, antibacterial and deodorizing functions may be applied to any kind of filter mounted in the water circulating path (paragraph 38).

24. Because it is known in the art that dish washing parts having exposure to food particles may be formed of a resin with embedded silver particles and may also have an antibacterial functional coating, as taught by Kim, and it is known to have a dishwasher sieve system with enlarged area replaceable components (which would be exposed to food particles), as taught by Jung, and the results of the modification would be predictable, namely, providing a sterilizing, antibacterial, deodorizing effect, it would have been obvious to one of ordinary skill in the art at the time of the invention to form the sieve system and replaceable component of an antibacterial material and to provide an antibacterial functional coating thereon. As Kim discloses the same structure, its antibiotic is broadly and reasonably interpreted to be consumable. The resulting dishwasher provided with at least one consumable antibiotic agent at or adjacent to at least one surface of the sieve system, wherein the antibiotic agent is provided inside an area of the liquid-bearing domestic appliance which contains stagnant water after drainage, including a sump, an outlet, and/or an outlet tube, the replaceable component comprises at least one antibiotic agent inside or layered on its surface would yield the claimed invention. The language directed to exposure to rinsing liquid and periodically replacing the replaceable component is intended use of the device. The dishwasher of Jung in view of Kim would be capable of having the replaceable component replaced periodically as the antibacterial agent is consumed or reduced to

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an amount insufficient to inhibit bacterial growth. The claimed intended use must result in a structural difference between the claimed apparatus and the prior art in order to patentably distinguish the claimed invention from the prior art.

25. Claims 20, 22, 23, 25-29, 31, and 32 are considered to be taught by Jung in view of Kim as applied above.

26. Regarding Claims 20, 22, and 23, Kim discloses a nano-poly (resin having silver or copper) with a functional coating thereon (paragraph 35, 36, 38, 45, 66). The plasma coating layer acts as a sterilizing/antibacterial/deodorizing functional layer, and the nano-poly is sterilizing/antibacterial/deodorizing to bacteria and molds (paragraphs 54, 66, 73). The functional coating layer may have TiO<sub>2</sub> and/or silver and/or copper (paragraph 36), and the nano-poly may have silver and copper (paragraph 66).

27. Regarding Claim 25, Jung discloses that the sieve system and/or filter (80) is below the rinsing tub (20; note bottom surface 26).

28. Regarding Claims 26-29, Jung discloses the replaceable component (70) is fixed replaceably by at least one fixation means (75) that is releasably inserted into a corresponding fixation opening of the sieve system (Figure 3; “extension part” 41; the entire sump region 40 including filter 80 may be construed as a “sieve system”), comprises at least one arm carrying the fixation means at an end of the arm, and spaced from an end of the arm (74).

29. Regarding Claims 31 and 32, the replaceable component (70) is provided inside an area of the liquid bearing domestic appliance that is spaced from the rinsing tub (Figure 3), and has the shape of a disk (73 or ends of cylindrical filters 76, 77, 78), and is adapted to be

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accommodated between a bottom of the filter and a bottom of the sump such that washing liquid can pass above and below the replaceable component (Figure 3).

### *Conclusion*

30. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **DAVID CORMIER** whose telephone number is (571)270-7386. The examiner can normally be reached on Monday - Thursday 8:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571) 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael Barr/  
Supervisory Patent Examiner, Art Unit  
1711

DGC  
David Cormier  
11/1/2011